

Supportability Assessment in T&E: A Tool for Better Acquisitions

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March 2001

National Summit on U.S. Defense Policy:
Acquisition, Research, Test and Evaluation



Report Documentation Page

Report Date 26032001	Report Type N/A	Dates Covered (from... to) -
Title and Subtitle Supportability Assessment in T&E: A Tool for Better Acquisitions	Contract Number	
	Grant Number	
	Program Element Number	
Author(s) Bridgman, Mike	Project Number	
	Task Number	
	Work Unit Number	
Performing Organization Name(s) and Address(es) Logistics Management Institute	Performing Organization Report Number	
Sponsoring/Monitoring Agency Name(s) and Address(es) NDIA (National Defense Industrial Association 2111 Wilson Blvd., Ste. 400 Arlington, VA 22201-3061	Sponsor/Monitor's Acronym(s)	
	Sponsor/Monitor's Report Number(s)	
Distribution/Availability Statement Approved for public release, distribution unlimited		
Supplementary Notes Proceedings from National Summit on U.S. Defense Policy: Acquisition, Research, Test and Evaluation, 26-30 March 2001 sponsored by NDIA.		
Abstract		
Subject Terms		
Report Classification unclassified	Classification of this page unclassified	
Classification of Abstract unclassified	Limitation of Abstract UU	
Number of Pages 18		

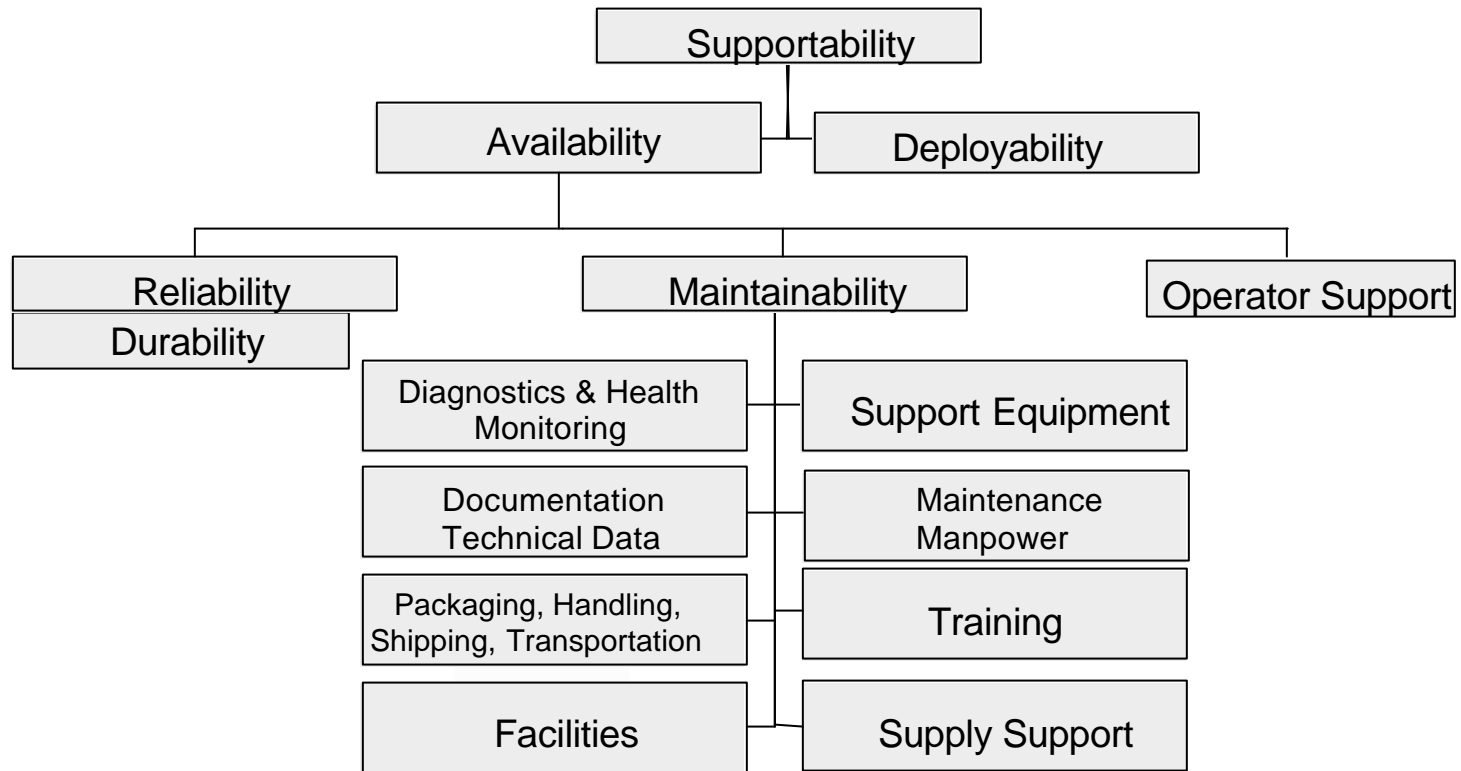
Three Questions

Why worry about supportability
during acquisition?

Why use T&E to assess supportability?

How can T&E be used to
assess supportability?

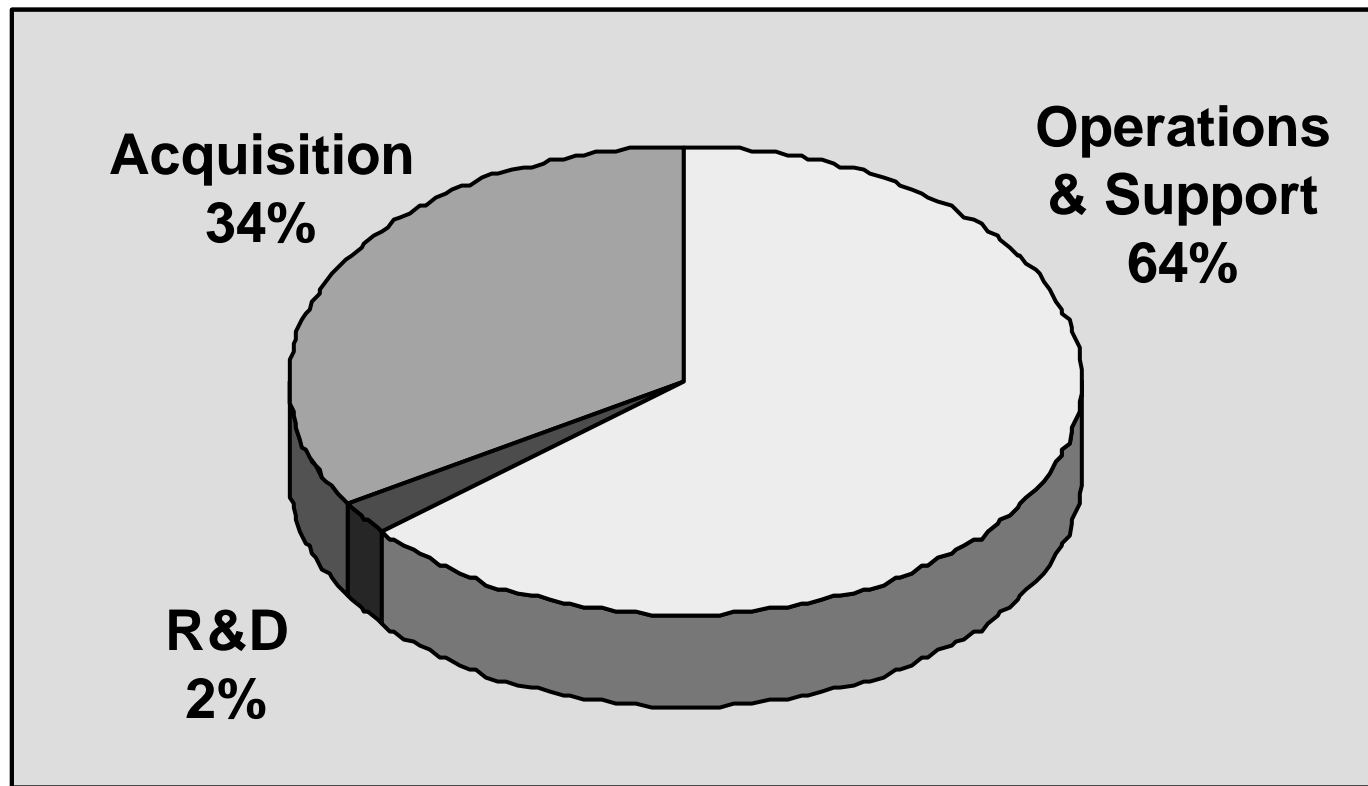
Elements of Supportability



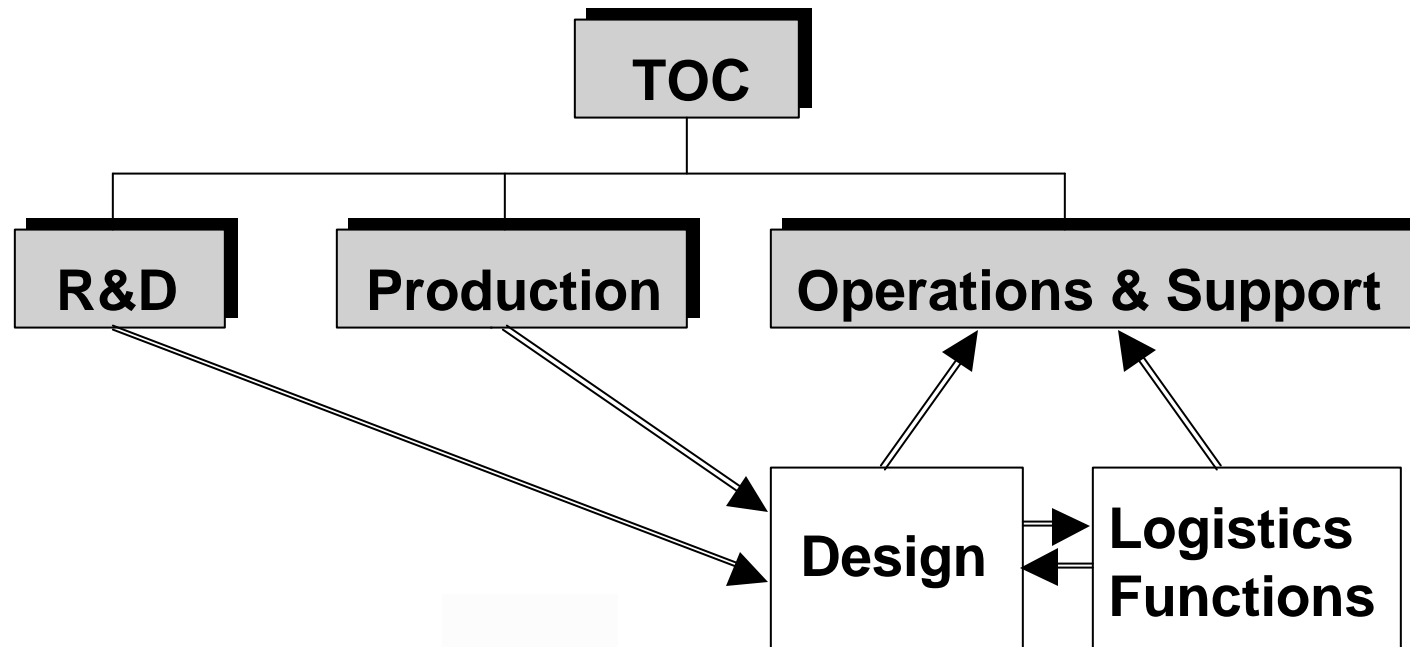
Why Worry About Supportability During Acquisition?

- Support costs are major component of total ownership cost
- Decisions made during acquisition drive support costs and availability
- Relationship between design and requirements for O&S resources

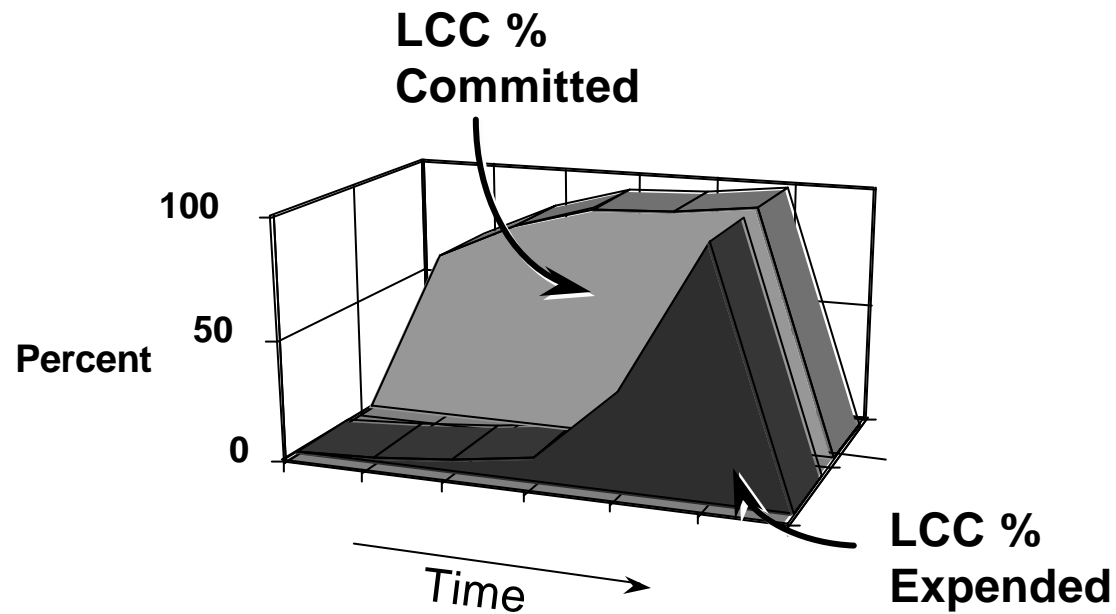
Typical TOC Composition



Total Ownership Cost

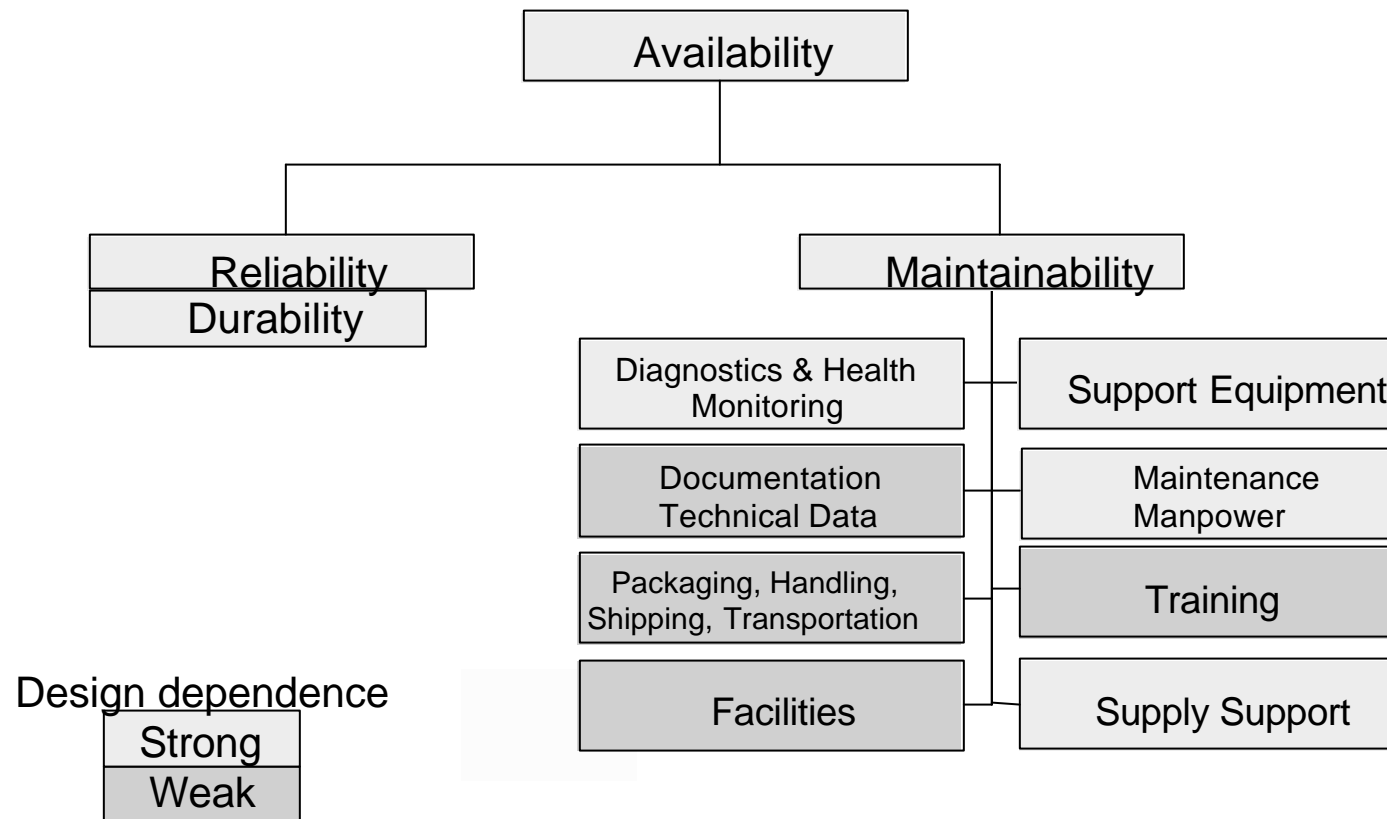


TOC Commitment



**Major cost reductions in weapon system support
require early recognition of supportability
issues and opportunities.**

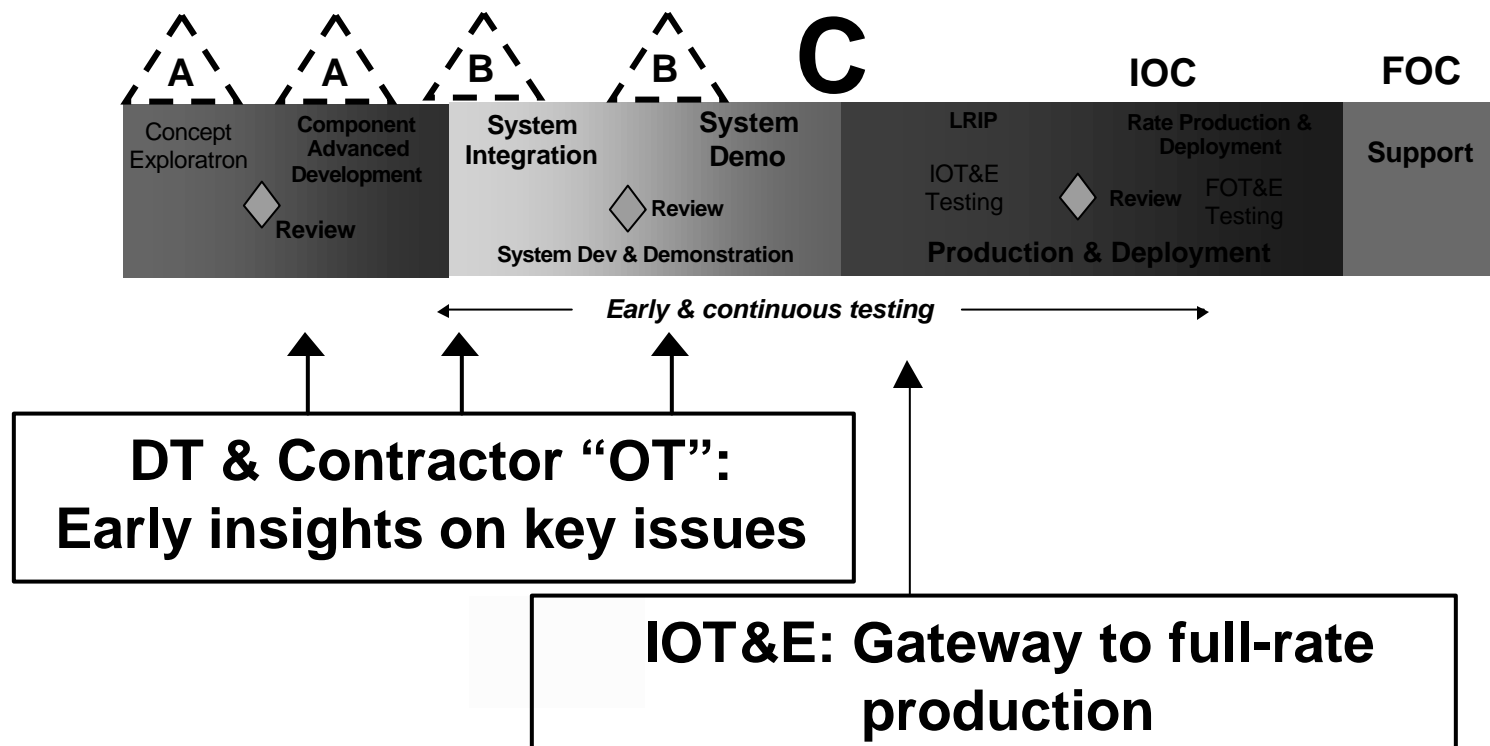
Dependence of Availability on Design



Why Use T&E to Assess Supportability?

- T&E is established as an integral part of the acquisition process
- T&E has gateways and check points for assessments of supportability
- ...at times when the insights can be used to affect cost & availability

Acquisition Timeline



Acquisition Process

**IDEAL: Balanced consideration of TOC,
readiness, performance, and risk**

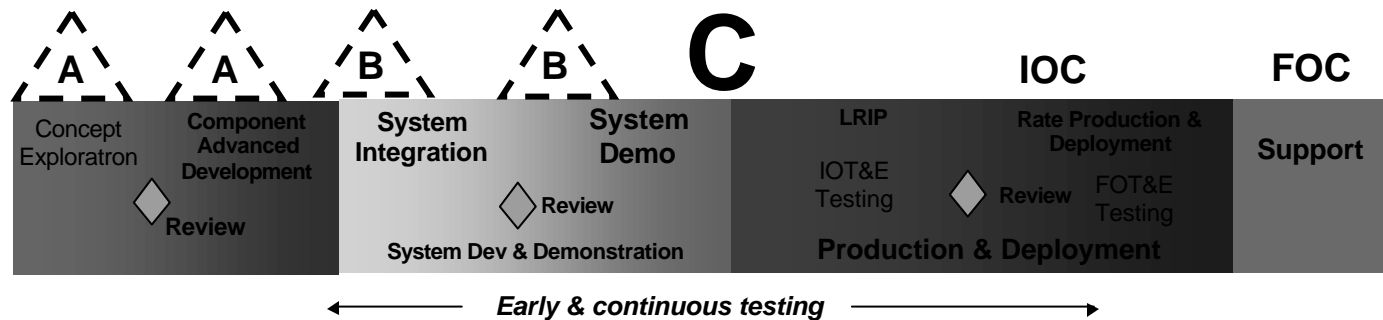
**REALITY: traditional pressures on a program office
- performance, schedule, and acquisition budget -
work against consideration of O&S costs
and supportability**

***T&E is a key opportunity to gain insights
about the first-order causal factors
that drive costs and availability***

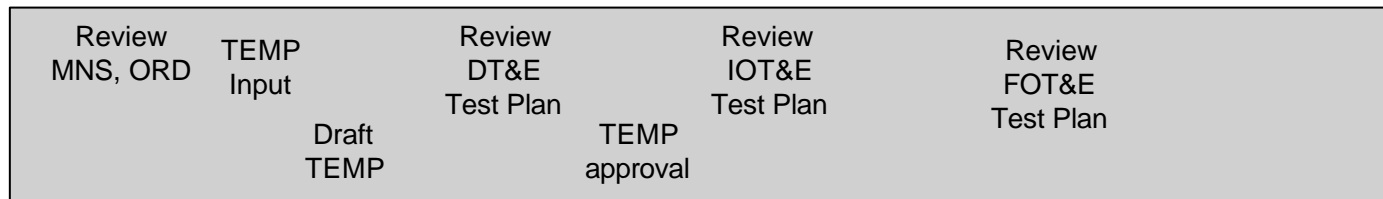
How Can T&E Be Used to Assess Supportability?

- Planning for TEMP - Extract supportability criteria from program docs and analogies.
- TEMP - Include all critical supportability issues
 - *Objective criteria (e.g., RAM, BIT/BITE)*
 - *Subjective judgement of the process (T.O.s)*
 - *Ensure supplemental demos and M&S activities are included to complement tests*
- Test plans for IOT&E, FOT&E - follow through

Acquisition Timeline



T&E Actions



Identify Key Supportability Issues

- Supportability characteristics that will seriously degrade system availability or cost if they are deficient
- Risks associated with
 - *Technology applications*
 - *Support concepts*
 - *Operations concepts*
- Logistics resource drivers

Methods for Identifying Key Supportability Issues

Document Review	Analysis	Modeling & Simulation
List issues & goals from system rqmts documents	Compare with other systems	Construct model of system, including ops & support
Check for coverage of issues & goals in TEMP	Review the elements of logistics support	Analyze the impacts of changes in ops & support variables
	Analyze relations among measures and assumptions	

Review OT&E Plans

- Are all key supportability issues addressed through testing or M&S ?
- Are the nature and the length of tests sufficient to judge with reasonable confidence?
- Are the M&S tools valid and are reasonable data and assumptions used?

OT&E Assessment

- Comprehensive with respect to key supportability issues?
- Major assumptions justified?
- Supportability problems that should receive corrective action?
- Supportability issues that require further T&E?

Summary

Supportability is key to
weapon system success

Supportability depends on design

T&E provides a timely opportunity
to develop supportability insights

Process and tools to evaluate
supportability exist -
Use them to improve acquisitions!